09-13-00

A

09/11/00 U.S. PTO

Please type a plus sign (+) inside this box [+]

PTO/SB/05 (12/97)
Approved for use through 09/30/00. OMB 0651-0032
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

jc825 U.S. PTO 09/659215 09/11/00

UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No. 004747.P006 Total Pages 3

First Named Inventor or Application Identifier Howard Abrams

Express Mail Label No. EL639015413US

ADDRESS TO: **Assistant Commissioner for Patents**
Box Patent Application
Washington, D. C. 20231

APPLICATION ELEMENTS
See MPEP chapter 600 concerning utility patent application contents.

1. XX Fee Transmittal Form
(Submit an original, and a duplicate for fee processing)

2. XX Specification (Total Pages 24)
(preferred arrangement set forth below)
- Descriptive Title of the Invention
- Cross References to Related Applications
- Statement Regarding Fed sponsored R & D
- Reference to Microfiche Appendix
- Background of the Invention
- Brief Summary of the Invention
- Brief Description of the Drawings (if filed)
- Detailed Description
- Claims
- Abstract of the Disclosure

3. X Drawings(s) (35 USC 113) (Total Sheets 10)

4. X Oath or Declaration (Total Pages 6)

a. X Newly Executed (Original or Copy)

b. ___ Copy from a Prior Application (37 CFR 1.63(d))
(for Continuation/Divisional with Box 17 completed) **(Note Box 5 below)**

i. ___ DELETIONS OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).

5. ____ Incorporation By Reference (useable if Box 4b is checked)
The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.

6. ____ Microfiche Computer Program (Appendix)

7. _____ Nucleotide and/or Amino Acid Sequence Submission
(if applicable, all necessary)
a. ____ Computer Readable Copy
b. ____ Paper Copy (identical to computer copy)
c. ____ Statement verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

8. __X__ Assignment Papers (cover sheet & documents(s))
9. _____ a. 37 CFR 3.73(b) Statement (where there is an assignee)
_____ b. Power of Attorney
10. _____ English Translation Document (if applicable)
11. _____ a. Information Disclosure Statement (IDS)/PTO-1449
_____ b. Copies of IDS Citations
12. _____ Preliminary Amendment
13. __X__ Return Receipt Postcard (MPEP 503) (Should be specifically itemized)
14. __X__ a. Small Entity Statement(s)
b. Statement filed in prior application, Status still proper and desired
15. _____ Certified Copy of Priority Document(s) (if foreign priority is claimed)

16. __X__ Other: Express Mail Certification

17. **If a CONTINUING APPLICATION,** check appropriate box and supply the requisite information:
____ Continuation ____ Divisional ____ Continuation-in-part (CIP)
of prior application No: _

18. **Correspondence Address**

_____ Customer Number or Bar Code Label _____
(Insert Customer No. or Attach Bar Code Label here)

or

__X__ Correspondence Address Below

NAME Glenn E. Von Tersch
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

ADDRESS 12400 Wilshire Boulevard
Seventh Floor

CITY Los Angeles STATE California ZIP CODE 90025-1026

Country U.S.A. TELEPHONE (408) 720-8598 FAX (408) 720-9397

PTO/SB/05 (12/97)
Approved for use through 09/30/00. OMB 0651-0032
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Respectfully submitted,

BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP

Date: September 11, 2000

By Glenn E. Von Tersch
Glenn E. Von Tersch

Reg. No.: 41,364

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, California 90025
(408) 720-8598

"Express Mail" mailing label number: EL639015413US
Date of Deposit: September 11, 2000
I hereby certify that I am causing this paper or fee to be deposited with the United States Postal Service "Express Mail Post Office to Addressee" service on the date indicated above and that this paper or fee has been addressed to the Assistant Commissioner for Patents, Washington, D. C. 20231
Carrie Boccaccini
(Typed or printed name of person mailing paper or fee)
Carrie Boccaccini
(Signature of person mailing paper or fee)
9-11-2000
(Date signed)

Serial/Patent No.: **** Filing/Issue Date: Herewith
Client: Muse Communications
Title: ONLINE LIVE SEARCH SYSTEMS

BSTZ File No.: 004747.P006 Atty/Secty Initials: GEV/cab
Date Mailed: September 11, 2000 Docket Due Date: ****

The following has been received in the U.S. Patent & Trademark Office on the date stamped hereon:

- ☐ Amendment/Response (____ pgs.)
- ☐ Appeal Brief (____ pgs.) (in triplicate)
- ■ Application - Utility (24 pgs., with cover and abstract)
- ☐ Application - Rule 1.53(b) Continuation (____ pgs.)
- ☐ Application - Rule 1.53(b) Divisional (____ pgs.)
- ☐ Application - Rule 1.53(b) CIP (____ pgs.)
- ☐ Application - Rule 1.53(d) CPA Transmittal (____ pgs.)
- ☐ Application - Design (____ pgs.)
- ☐ Application - PCT (____ pgs.)
- ☐ Application - Provisional (____ pgs.)
- ■ Assignment and Cover Sheet
- ■ Certificate of Mailing
- ■ Declaration & POA (6 pgs.) (signed)
- ☐ Disclosure Docs & Org & Copy of Inventors Signed Letter (____ pgs)
- ■ Drawings. 10 # of sheets includes 10 figures

- ■ Express Mail No.: EL639015413US
- ☐ ____ Month(s) Extension of Time
- ☐ Information Disclosure Statement & PTO-1449 (__ pgs.)
- ☐ Issue Fee Transmittal
- ☐ Notice of Appeal
- ☐ Petition for Extension of Time
- ☐ Petition for ____
- ■ Postcard
- ☐ Power of Attorney (____ pgs.)
- ☐ Preliminary Amendment (____ pgs.)
- ☐ Reply Brief (____ pgs.)
- ☐ Response to Notice of Missing Parts
- ■ Small Entity Declaration for Indep. Inventor/Small Business
- ☐ Transmittal Letter, in duplicate
- ☐ Fee Transmittal, in duplicate

■ Check No. 37586 Amt: $481.00
☐ Check No. ____ Amt: ____

☐ Other: ____

EL639015413US

PTO/SB/17(6/99)
Approved for use through 09/30/2000. OMB 0651-0032
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

FEE TRANSMITTAL FOR FY 2000

TOTAL AMOUNT OF PAYMENT ($) $ 481.00

Complete if Known:
Application No. New Application
Filing Date Herewith
First Named Inventor Howard Abrams
Group Art Unit Not Yet Assigned
Examiner Name Not Yet Assigned
Attorney Docket No. 004747.P006

METHOD OF PAYMENT (check one)

1. [ ] **The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:**

   Deposit Account Number 02-2666
   Deposit Account Name

   [ ] **Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17**

---

2. [X] **Payment Enclosed:**
   [X] **Check**
   [ ] **Money Order**
   [ ] **Other**

FEE CALCULATION

1. **BASIC FILING FEE**

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
101	690	201	345	Utility application filing fee	345.00
106	310	206	155	Design application filing fee	
107	480	207	240	Plant filing fee	
108	690	208	345	Reissue filing fee	
114	150	214	75	Provisional application filing fee	

SUBTOTAL (1) $ 345.00

2. **EXTRA CLAIM FEES**

		Extra Claims		Fee from below		Fee Paid
Total Claims	22	– 20** =	2	X 9.00	=	18.00
Independent Claims	5	– 3** =	2	X 39.00	=	78.00
Multiple Dependent					=	

****Or number previously paid, if greater; For Reissues, see below.**

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
103	18	203	9	Claims in excess of 20
102	78	202	39	Independent claims in excess of 3
104	260	204	130	Multiple dependent claim, if not paid
109	78	209	39	**Reissue independent claims over original patent
110	18	210	9	**Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) $ 96.00

Patent fees are subject to annual revisions. Small Entity payments must be supported by a small entity statement, otherwise large entity fees must be paid.
See Forms PTO/SB/09-12

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
105	130	205	65	Surcharge - late filing fee or oath	
127	50	227	25	Surcharge - late provisional filing fee or cover sheet	
139	130	139	130	Non-English specification	
147	2,520	147	2,520	For filing a request for reexamination	
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for response within first month	
116	380	216	190	Extension for response within second month	
117	870	217	435	Extension for response within third month	
118	1,360	218	680	Extension for response within fourth month	
128	1,850	228	925	Extension for response within fifth month	
119	300	219	150	Notice of Appeal	
120	300	220	150	Filing a brief in support of an appeal	
121	260	221	130	Request for oral hearing	
138	1,510	138	1,510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive unavoidably abandoned application	
141	1,210	241	605	Petition to revive unintentionally abandoned application	
142	1,210	242	605	Utility issue fee (or reissue)	
143	430	243	215	Design issue fee	
144	580	244	290	Plant issue fee	
122	130	122	130	Petitions to the Commissioner	
123	50	123	50	Petitions related to provisional applications	
126	240	126	240	Submission of Information Disclosure Stmt	
581	40	581	40	Recording each patent assignment per property (times number of properties)	40.00
146	690	246	345	For filing a submission after final rejection (see 37 CFR 1.129(a))	
149	690	249	345	For each additional invention to be examined (see 37 CFR 1.129(a))	
Other fee (specify)					
Other fee (specify)					

SUBTOTAL (3) $ 40.00

*Reduced by Basic Filing Fee Paid

SUBMITTED BY:

Typed or Printed Name: Glenn E. Von Tersch

Signature: Glenn E. Von Tersch Date: September 11, 2000

Reg. Number: 41,364 Deposit Account User ID: _____ (complete if applicable)

Applicant/Patentee: Howard Allan Abrams et al

Application or Patent No. Not Yet Assigned Atty Docket # 004747.P006

Filed or Issued: Herewith

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
37 CFR 1.9(f) and 1.27(c)--SMALL BUSINESS CONCERN

I hereby declare that I am

[ ] the owner of the small business concern identified below:

[X] an official empowered to act on behalf of the small business concern identified below:

NAME OF CONCERN: POD Development, Inc.

ADDRESS: 19/F Worldwide House, 19 Des Voeux Road, Central Hong Kong 210

I hereby declare that the above identified small business concern qualifies as a small business concern as defined in 13 CFR 121.3-18, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under 41(a) and (b) of Title 35, U.S. Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention entitled: ONLINE LIVE SEARCH SYSTEMS, by inventors: Howard Allan Abrams et al, described in

[x] the specification filed herewith.

[ ] Application No. _____ filed _____

[ ] patent # _____ issued _____

If the rights held by the above-identified small business concern are not exclusive, each individual, concern or organization having rights to the invention is listed below* and no rights to the invention are held by any person, other than the inventor, who could not qualify as a small business concern under 37 CFR 1.9(d) or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e). *Note: separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

Name: _____

Address: _____

[ ] individual [ ] small business concern [ ] nonprofit organization

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b)).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 1001 of Title 18 of the U.S. Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING: Geoffrey F. Graber

TITLE IN ORGANIZATION: Corporate Agent

SIGNATURE _____ DATE 8 Sept., 2000

UNITED STATES PATENT APPLICATION

FOR

ONLINE LIVE SEARCH SYSTEMS

Inventors:

HOWARD ABRAMS
JONATHAN LINDO
PAYTON WHITE
MACUS BARNES
GEOFF GRABER
GAVIN CHENG

Assignee:

Muse Corporation
1950 Elkhorn Court
San Mateo, CA 94403

Prepared by:
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
12400 Wilshire Boulevard
Seventh Floor
Los Angeles, California 90025-1026
(408) 720-8598

Attorney's Docket No: 004747.P006

"Express Mail" mailing label number: EL639015413US
Date of Deposit: September 11, 2000
I hereby certify that I am causing this paper or fee to be deposited with the United States Postal Service "Express Mail Post Office to Addressee" service on the date indicated above and that this paper or fee has been addressed to the Assistant Commissioner for Patents, Washington, D. C. 20231

Carrie Boccaccini
(Typed or printed name of person mailing paper or fee)

Carrie Boccaccini
(Signature of person mailing paper or fee)

9-11-2000
(Date signed)

ONLINE LIVE SEARCH SYSTEMS

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention is related to the area of Internet browser applications and more particularly related to a method or system for providing online live search over a data network.

Description of the Related Art

The Internet is a rapidly growing communication network of interconnected computers and computer networks around the world. Together, these millions of connected computers form a vast repository of multimedia information that is readily accessible by any of the connected computers from anywhere at any time. From a user's perspective, the information is, however, scattering all over the places and disorganized, it is nearly impossible to locate desired information without *a priori* knowledge of the locations. To assist users to find the desired information in a logic manner, many specialized search web sites, well over 370 of them, have been created to provide one or more search engines to assist the users to look for the desired information. Notable examples of the search engines provided on the Internet include Yahoo! at www.yahoo.com and Lycos at www.lycos.com. Most of the search engines employ what is called a hunting method, namely a search web site 102 as shown in FIG. 1 sends out a spider 110 (also called a "crawler" or a "bot") over the Internet that goes to every page or representative pages on each of the Web site 116-1, 116-2...

116-n that want to be searchable. Once the spider 110 reads into a Web site, it collects hypertext links on each page to discover and read a site's other pages. As a result, the database 104 maintains a collection of hypertext links that are obtained from the crawling process, submitted by the web sites or through other means .

When a query (i.e. a search request) for a particular web site is received from the Internet, a request interface 112 processes the query and activates the search engine 106 that compares the query with the entries in the database 104. The search engine 106 then fetches all relevant links from the database 104. The request interface 112 packs the relevant links and forwards the search result to a user who sent the query. An alternative to using a search engine is to permit the user to explore a structured directory of topics. Yahoo is the most widely-used directory on the Web. In reality, however, the search results can often run for pages and consequently overwhelm a user. Quite often there are many broken links in the search results because of possible relocation or removal of some of the earlier identified web pages, which consequently frustrates a user.

There is therefore a great need for a live online search system that provides interest-specific search results and at the same time ensures that the search result is always updated.

SUMMARY OF THE INVENTION

An online live search system is disclosed and may be implemented in method or apparatus form that yields one or more of the following advantages and benefits. One of them is a live search system in which every found link is lively searched, hence it is very unlikely that a found link is broken. Another one is that the found links are closely related to a searcher's subject since the search is conducted among a community having the same or similar interests or areas so that the number of unrelated subjects to a particular search is substantially reduced.

According to one aspect of the present invention, a method includes sending a query to a first set of users accessible by a first user, the query including information relevant to a request for information. The method also includes receiving a response to the query from a second user, the second user being a member of the first set of users, the response including information responsive to the query, the information accessible in a public portion of a system.

Other objects, benefits and advantages together with the foregoing are attained in the exercise of the invention in the following description and resulting in the embodiment illustrated in the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention is illustrated by way of example and not limitation in the accompanying figures.

Figure 1 illustrates a prior art embodiment of a search engine.

Figure 2 illustrates an embodiment of a system including a set of computers coupled through a network.

Figure 3A illustrates a representation of an embodiment of two sets of users and interconnections therebetween.

Figure 3B illustrates a representation of an embodiment involving users organized for multicasting queries.

Figure 4 illustrates an embodiment of a directory structure of a computer.

Figure 5 illustrates an embodiment of a method of querying for information.

Figure 6 illustrates an alternate embodiment of a method of querying information.

Figure 7 illustrates an embodiment of a system.

Figure 8 illustrates an embodiment of a machine-readable medium or media.

Figure 9 illustrates an embodiment of a packet suitable for sending a query.

DETAILED DESCRIPTION

Embodiments pertaining to the present invention for implementing online live search systems are described. The embodiments may be realized in system, apparatus, or computer readable medium. Each embodiment yields one or more of the following advantages and benefits. One of those is a real live search system built upon computers that are actually online at the time a search is conducted, hence every found responsive to a query is lively searched. As a result, it is very unlikely that a found link is broken. Another one is that the found links are closely related to a searcher's subject since the search is conducted among a community having the same or similar interests or areas so that the number of unrelated subjects to a particular search is substantially reduced.

The detailed description of the invention is presented largely in terms of procedures, steps, logic blocks, processing, and other symbolic representations that directly or indirectly resemble the operations of data processing devices coupled to networks. These process descriptions and representations are typically used by those skilled in the art to most effectively convey the substance of their work to others skilled in the art. Reference herein to "one embodiment" or "an embodiment" means that a particular feature, structure, or characteristic described in connection with the embodiment can be included in at least one embodiment of the invention. The appearances of the phrase "in one embodiment" in various places in the specification are not necessarily all referring to the same embodiment, nor are separate or alternative embodiments mutually exclusive of other embodiments. Further, the order of blocks in process flowcharts or diagrams representing one or more embodiments of

the invention do not inherently indicate any particular order nor imply any limitations in the invention.

Referring now to the drawings, in which like numerals refer to like parts throughout the several views. Figure 2 shows a system configuration 200. Two computing devices 202 and 204 are coupled to a network 206. For illustration purposes, the computing device 202 is used by a first user who initiates a communication session with a second user using the computing device 204. Hence the first user and the second user are respectively referred to as the sender or caller and the recipient or callee. In one embodiment, the computing devices 202 or 204 is a personal computer that operates under a Windows Operating system provided by Microsoft Corporation. In other embodiments, the computing devices 202 or 204 is a portable device that may include a personal data assistant (PDA) and a palm computing device. In any event, the computing devices 202 and 204 are network enabled, capable of communicating with each other over the data network 206. The data network 206 may include, but is not limited to, the Internet, an Intranet, a wireless network or a network of private or public networks.

Figure 3A illustrates a representation of an embodiment of two sets of users, community 1 and community 2. Each of the communities 1 and 2 may be independent or interconnected through a common member C11. Specifically, the community 1 is formed by C12, C13, ... and C1N and the community 2 is formed by C21, C21, ... and C2N and C11. In the particular case as shown in Figure 3A, C11 is a common or double member of both communities 1 and 2. Unless otherwise specifically stated, members of

a community may interchangeably mean a computing device coupled to the community or a user thereof in communication with the community.

According to one embodiment, a community is formed by member evolvement. For example, initially, member C11 has a particular interest in computer 3D graphics and inquires a phrase "VRML" from a computer online. If the user of the computer has detailed or various information regarding "VRML" and is willing to provide those to member C11. By virtue of the present invention, the user of the computer has similar interest as member C11 does and may become a member C12 of a "computer 3D graphics" community originated by member C11. As either C11 and C12 have more interactions or queries and receive responses thereto from other users on the network, a larger community is being formed. As more and more interactions going on within the members of the community, the community could be evolved into a network of users or computers that share the same or similar interests.

In one embodiment, users C11, C12, C13, ... and C1N all form a first group of users, while users C11, C21, C22, ... C2N all form a second group of users. In some embodiments, groups are formed as a result of users identifying other users with similar information resources, similar interests, or other common characteristics. These groups may form as a result of users indicating a desire to join such a group, or the groups may form as users discover common characteristics. In one embodiment, this grouping is representative of a first user having knowledge of how to contact a second user and means to contact the second user (such as contacting the second user through use of the Internet for example). It will be appreciated that other methods of forming groups may also exist.

In some cases, a member may join more than one communities. As shown in Figure 3A, member C11 is coupled to members C12, C13, ... and C1N as well as C21, C21, ... C2N and C11, all of which are coupled to a network and hence communicate to each other within its own community. Two communities could communicate through the common member C11.

Figure 3B shows an illustration 350 of members grouped as one or more multicast groups 352a-352n. Each of the members (e.g. 354a-354n in group 352a) is connected to a network such as the Internet. Individual members are free to join or leave a multicast group at any time. There are no restrictions on the physical location or the number of members in a multicast group. A member may be a member of more than one multicast group at any given time and does not have to belong to a group to send/receive messages to members of the group. According to one embodiment, a group membership protocol is employed by routers to learn about the presence of group members on their directly attached to a network. When a member joins a multicast group, it transmits a group membership protocol message for the group(s) that it wishes to communicate with, and sets its IP process and network interface card to receive frames addressed to the multicast group.

In operation, one request member desires responses to its query from a particular multicast group (e.g. group 352a), the query is then multicast to the group. If any member in the group has information pertaining to the query, a response may be forwarded back to the request member. This receiver-initiated join process has excellent scaling properties since, as the multicast group increases in size, it becomes ever more likely that responses to a query will be received.

Figure 4 illustrates an embodiment of a directory structure of a computer. Client 400 includes public portion 410 and private portion 420. Public portion 410 includes directories labeled as 'Music,' 'Video,' 'Photo,' 'Photos,' 'Auction Items,' and 'Others.' Private portion 420 includes directories labeled 'Financial data,' 'Personal data,' 'bookmark,' 'files,' and 'others.' In one embodiment, public portion 410 may be accessed by third-party computers in response to requests for information from such third-party computers. Private portion 420 may not be accessed (at least not in an authorized manner) by third-party computers.

In one embodiment, a member willing to share or provide information to others has a computer including resources arranged similar to or reflected in Figure 4 by virtue of the present invention. A user, such as user C11, may seek information about a first subject or seek a response to a query. User C11 sends out the query to each user C11 has contact information for. Each of those users may respond to the query if the each of those users has responsive data, or may forward the request to other users accessible to receive the request. This may be repeated until the query is answered, or until some form of limit is reached, such as a built-in limit to the number of times a query may be forwarded.

Alternatively, in another embodiment, user C11 broadcasts a query to users that user C11 believes are likely to have information, such as users grouped together based on a shared interest in a given subject or a multicast group. For example, users C12, C13 ... C1N may all have an interest in sports, while user C21, C22 ... C2N may have an interest in law. User C11 would have interests in both law and sports. Then, when user C11 has a query related to sports, user C11 may broadcast the query to users

C12, C13 ... C1N, thus providing a potentially efficient use of resources involved in transferring the query.

Figure 5 illustrates an embodiment of a method of querying for information. At block 510, a request or query is sent from a first user to a group of users accessible by the first user. At block 520, information responsive to the query (i.e. a request) is found by one of the users of the group of users. Depending on an exact implementation, the one of the users (i.e. via his/her computer) simply returns a response to the query or forwards the query to another user for further search at 550. At block 530, the information is supplied to the first user. Alternatively, at block 540, information responsive to the query is not found, and the query is then forwarded at block 550. This forwarding resembles the initial sending of the query at block 510, in that it is sent from a second user to a group of users accessible by the second user. It may be preferable to record the users to which the query has been sent each time it is forwarded, to avoid redundant forwarding and looping of queries, or it may be preferable to record the number of times the query is forwarded to avoid excessive forwarding or looping. Similarly, date and time stamps may be employed to prevent consideration of stale queries, and thus eliminate looping or excessive forwarding. The recordation may be implemented directly in the query or indirectly in a message accompanying the query.

Once the query is forwarded, the information sought (responsive to the query) may be found (at block 570) and returned to the first user (at block 580). In one embodiment, the information identifying the supplying user is included with the information sought, and at block 590 the supplying user is added to the users

accessible by the first user for purposes of sending further queries. Should the information not be found after forwarding of the query (block 560), then the query may be forwarded again.

Figure 6 illustrates an alternate embodiment of a method of querying information. At block 610, a second user receives a request for information from a first user. If the second user has information which is responsive to the request, at block 620 that information is found, and at block 630 the responsive information is returned to the first user.

If information responsive to the request is not directly accessible by the second user this is determined at block 640. Following that, at block 650 the request for information is forwarded to other users accessible by the second user. Note that forwarding of the request may be accomplished by forwarding the request to the users deemed likely to have information, all users accessible by the second user, or users accessible by the second user who are not shown to have already received the request for example.

If the forwarded request results in a response with information, that information may be received by the second user at block 660. Having received the information from a sender (not the first user), the sender of the information is added to the database or other list of users accessible by the second user at block 670, and the information responsive to the request is returned to the first user at block 680.

Note that in one embodiment, Figure 6 illustrates a process observed by (or engaged in by) an intermediate user while Figure 5 illustrates the process observed by (or engaged in by) the user originating a query. The user originating a query may be a

sender or caller within the meaning of the description of Figure 2 when originating the query, and a recipient or callee when receiving a response to the query. Similarly, an intermediate user may be a recipient or callee receiving a query and a sender or caller sending a response.

Figure 7 illustrates an embodiment of a system. Processor 710 is a processor such as one capable of executing instructions. Control hub 720 is coupled to processor 710 and serves as an interface to processor 710. Memory 730 is coupled to control hub 720 and may store instructions or data for example. Memory 730 may be composed of a single machine-readable medium such as RAM, some form of ROM (FLASH EEPROM for example), magnetic media, optical media or other storage media of persistent or non-persistent form, or may be composed of multiple media.

Network interface 740 is also coupled to control hub 720 and provides a connection to a network such as an intranet, the internet, or other distributed network. User interface 750 is a user interface coupled to the control hub and may include both input and output devices which may be integrated or discrete, such as a LCD with touch screen capabilities or a combination of monitor and keyboard for example. Note that various components of the system may be integrated, such as integration of the control hub 720 and processor 710 in a single unit, or components of the system may be further broken down into sub-components, such as multiple memory devices composing memory 730 or a separate input device and output device forming user interface 750. Moreover, not all of the components illustrated need be included in the system and other components may be added within the spirit and scope of the invention.

Figure 8 illustrates an embodiment of a machine-readable medium or media or a collection of logic blocks. A machine-readable medium may be composed of one or more media such as RAM, some form of ROM (FLASH EEPROM for example), magnetic media, optical media, carrier waves or other transmissive media, or other storage media of persistent or non-persistent form, or may be composed of multiple media. In one embodiment, a machine-readable medium stores instructions which may be executed on a processor, and thereby cause the processor to perform a function or action. Logic blocks may be either sets of instructions in a machine-readable medium or may be portions of a component embodying logic suitable for causing the component to perform a predetermined function or action upon proper activation of the logic block. It will be appreciated that logic blocks and sets of instructions may overlap with other logic blocks or sets of instructions, and that a combination of logic blocks implemented as a portion of a component and sets of instructions in a medium may be combined to cause performance by a processor or system of a function or action.

Medium 800 is a machine-readable medium or media including a number of components. Query reception 810 may be a logic block or set of instructions suitable for causing a processor to receive a query sent by another system. Query transmission 820 may be a logic block or set of instructions suitable for causing a processor to transmit a query to another system. User interface 830 may be a set of instructions or logic block suitable for receiving input from and providing output to a user. Group maintenance 840 may be a logic block or set of instructions suitable for maintaining a list of users and corresponding address information for each user or similar database.

Query/File Check 850 may be a logic block or set of instructions suitable for checking a set of files accessible on a system for information responsive to a query.

Figure 9 illustrates an embodiment of a packet structure suitable for transmission of a query. The packet includes three parts. The query originator/sender information may include (in one embodiment) information relating to the user who originated the query, while in an alternate embodiment may include information relating to the user who sent the query (such as a user forwarding a query originated by a different user). The query portion includes the query itself, encoded such that it may be interpreted by a machine and such that information responsive to the query may be found by a machine performing a search of information publicly available. The control information may include (in various embodiments) information relevant to how often the packet has been forwarded, information relevant to when the packet was originated, information relevant to which users have had the packet sent to them, or information relevant to identifying the user originating the query for example. Identification of users and maintenance of groups of users may be accomplished by maintaining a list of email addresses or identifiers of users (names for example) and corresponding IP addresses for example. Note that a packet similar to that of Figure 9 may be suitable for sending a response.

In the foregoing detailed description, the present invention has been described with reference to specific exemplary embodiments thereof. It will, however, be evident that various modifications and changes may be made thereto without departing from the broader spirit and scope of the present invention. In particular, the separate blocks of the various block diagrams represent functional blocks of methods or apparatuses and are not necessarily indicative of physical or logical separations or of an order of

operation inherent in the spirit and scope of the present invention. For example, the various blocks of Figures 7 and 8 may be integrated into components, or may be subdivided into components. Moreover, the blocks of Figures 5 and 6represent portions of a method which, in some embodiments, may be reordered or may be organized in parallel rather than in a linear or step-wise fashion. The present specification and figures are accordingly to be regarded as illustrative rather than restrictive.

DRAFT - 05/25/2005

CLAIMS

What is claimed is:

1. A method for accessing information, the method comprising:

sending a query to a first set of users accessible by a first user, the query including information relevant to a request for information; and

receiving a response to the query from a second user, the second user a member of the first set of users, the response including information responsive to the query, the information accessible in a public portion of a system.

2. The method of claim 1 further comprising:

providing the response from information accessible in a public portion of a system controlled at least in part by the second user.

3. The method of claim 1 further comprising:

forwarding the query to a second set of users, each user of the second set of users accessible by the second user;

receiving a response from a third user, the third user a member of the second set of users, the response including information responsive to the query from a public portion of a system; and

forwarding the response to the first user.

4. The method of claim 3 further comprising:

adding the third user to the first set of users.

5. The method of claim 4 wherein:

the second set of users dynamically formed such that the second set of users has no intersection with the first set of users.

6. The method of claim 5 wherein:

The query includes a list of users known to have had the query sent to each user of the list of users.

7. The method of claim 4 wherein:

the query includes a timestamp indicating when the query was originated and further comprising discarding queries received at a time later than the timestamp plus a predetermined length of time.

8. A system comprising:

a processor;

a control hub coupled to the processor;

a network interface coupled to the control hub;

a memory coupled to the processor;

a first logic block configured to receive a query;

a second logic block configured to transmit a query; and

a third logic block configured to check a public file system for information responsive to a query.

9. The system of claim 8 further comprising:

a fourth logic block configured to interface with a user; and

a fifth logic block configured to maintain a group of users and corresponding addresses.

10. A system comprising:

means for sending a query to a first set of users accessible by a first user, the query including information relevant to a request for information; and

means for receiving a response to the query from a second user, the second user a member of the first set of users, the response including information responsive to the query, the information accessible in a public portion of a system.

11. The system of claim 10 further comprising:

means for providing the response from information accessible in a public portion of a system controlled at least in part by the second user.

12. The system of claim 11 further comprising:

means for Forwarding the query to a second set of users, each user of the second set of users accessible by the second user;

means for Receiving a response from a third user, the third user a member of the second set of users, the response including information responsive to the query from a public portion of a system; and

the means for providing including Means for Forwarding the response from the third user to the first user.

13. The system of claim 12 further comprising:

means for adding the third user to the first set of users.

14. A machine-readable medium embodying instructions for execution by a processor, the instructions, when executed by the processor, causing the processor to perform a method, the method comprising:

sending a query to a first set of users accessible by a first user, the query including information relevant to a request for information; and

receiving a response to the query from a second user, the second user a member of the first set of users, the response including information responsive to the query, the information accessible in a public portion of a system.

15. The machine-readable medium of claim 14 further embodying instructions for execution by a processor, the instructions, when executed by the processor, causing the processor to perform a method, the method further comprising:

providing the response from information accessible in a public portion of a system controlled at least in part by the second user.

16. The machine-readable medium of claim 15 further embodying instructions for execution by a processor, the instructions, when executed by the processor, causing the processor to perform a method, the method further comprising:

forwarding the query to a second set of users, each user of the second set of users accessible by the second user;

receiving a response from a third user, the third user a member of the second set of users, the response including information responsive to the query from a public portion of a system; and

forwarding the response to the first user.

17. The machine-readable medium of claim 16 further embodying instructions for execution by a processor, the instructions, when executed by the processor, causing the processor to perform a method, the method further comprising:

adding the third user to the first set of users.

18. The machine-readable medium of claim 17 further embodying instructions for execution by a processor, the instructions, when executed by the processor, causing the processor to perform a method, wherein:

the second set of users dynamically formed such that the second set of users has no intersection with the first set of users; and

the query includes a list of users known to have had the query sent to each user of the list of users.

19. The machine-readable medium of claim 17 further embodying instructions for execution by a processor, the instructions, when executed by the processor, causing the processor to perform a method, wherein:

the query includes a timestamp indicating when the query was originated and further comprising discarding queries received at a time later than the timestamp plus a predetermined length of time.

20. A method of providing information from a second user comprising:

Receiving a query from a first user, the query including information relevant to a request for information; and

Sending a response to the query, the response including information responsive to the query, the information accessible in a public portion of a system.

21. The method of claim 20 further comprising

providing the response from information accessible in a public portion of a first system controlled at least in part by the second user.

22. The method of claim 20 further comprising:

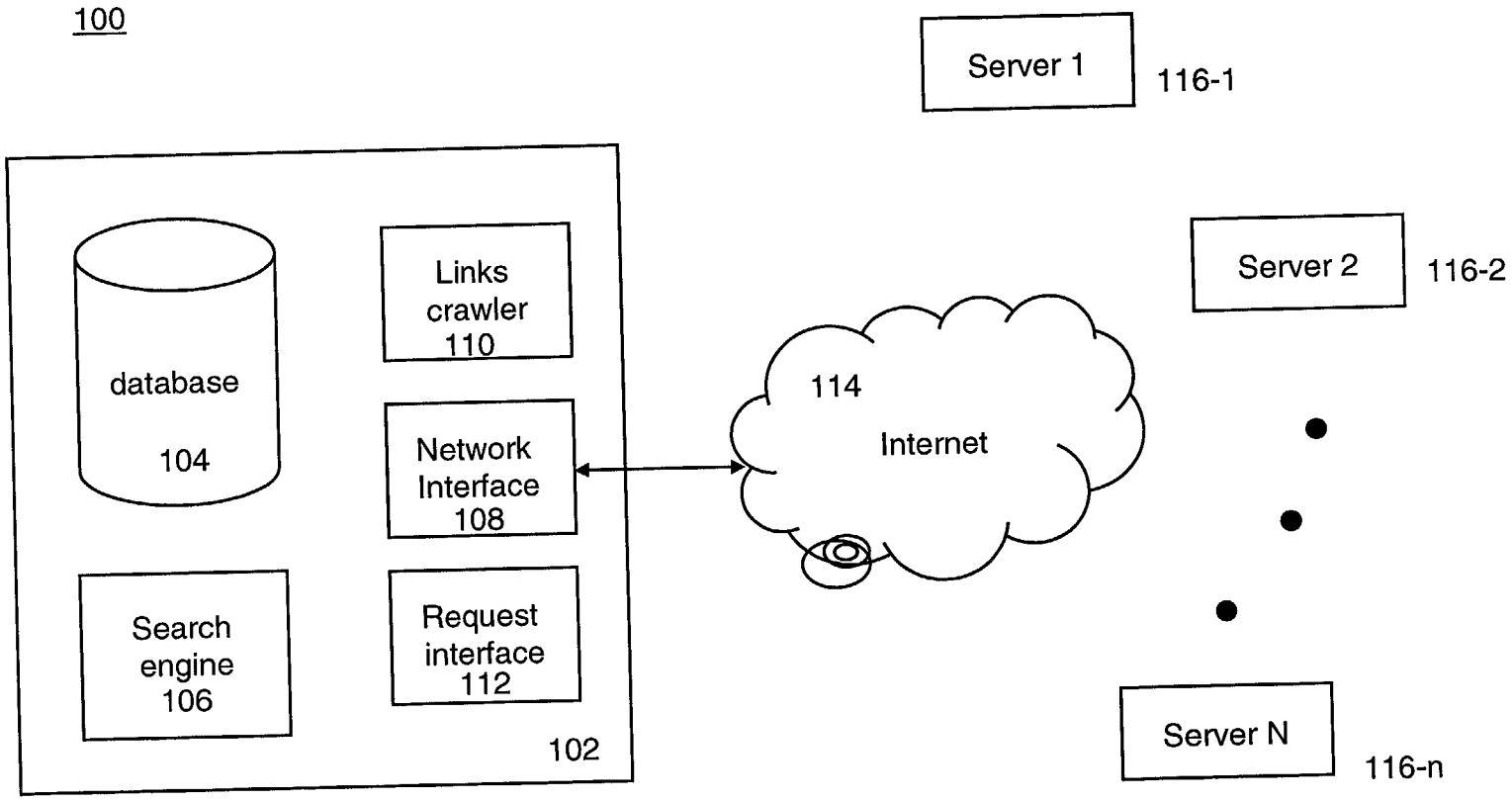
forwarding the query to a set of users, each user of the set of users accessible by the second user;

receiving a response from a third user, the third user a member of the set of users, the response including information responsive to the query from a public portion of a second system; and

forwarding the response to the first user.

ABSTRACT OF THE DISCLOSURE

An online live search system is disclosed and may be implemented in method or apparatus form. According to one embodiment, a method includes sending a query to a first set of users accessible by a first user, the query including information relevant to a request for information. The method also includes receiving a response to the query from a second user, the second user a member of the first set of users, the response including information responsive to the query, the information accessible in a public portion of a system.



(Prior Art)

Fig. 1

DBTF60" 5F365360

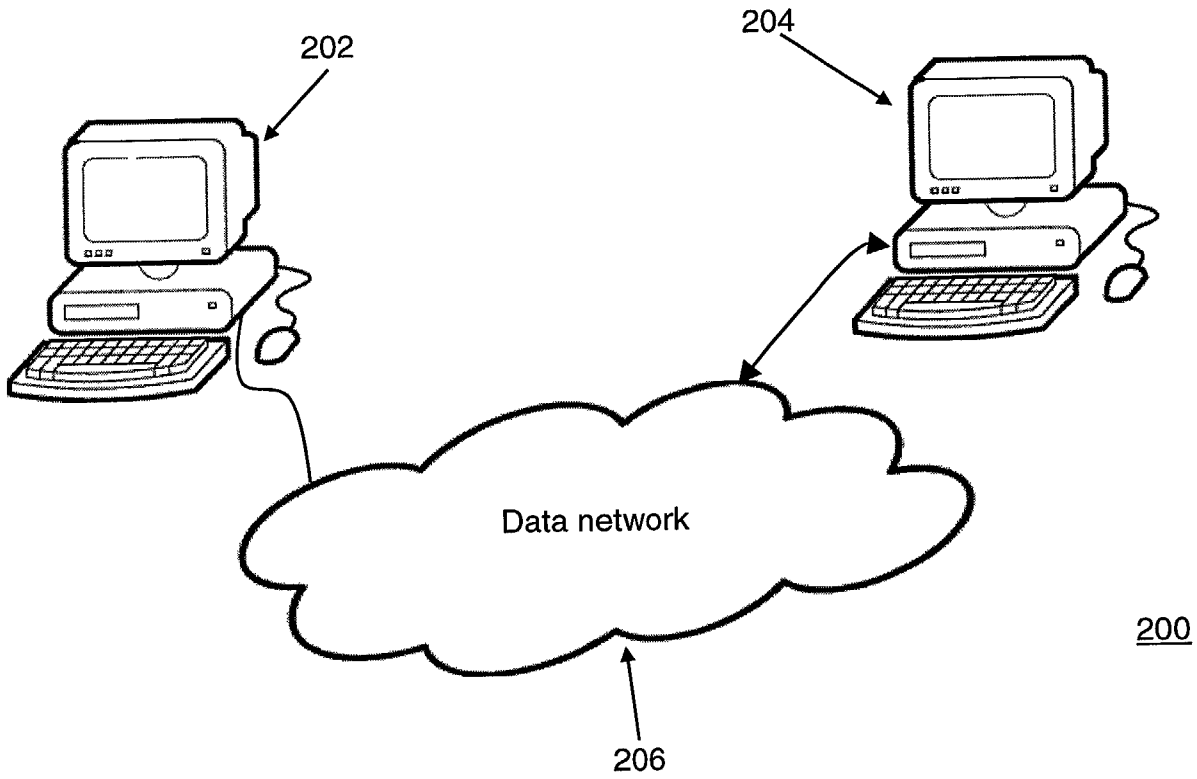


Fig. 2

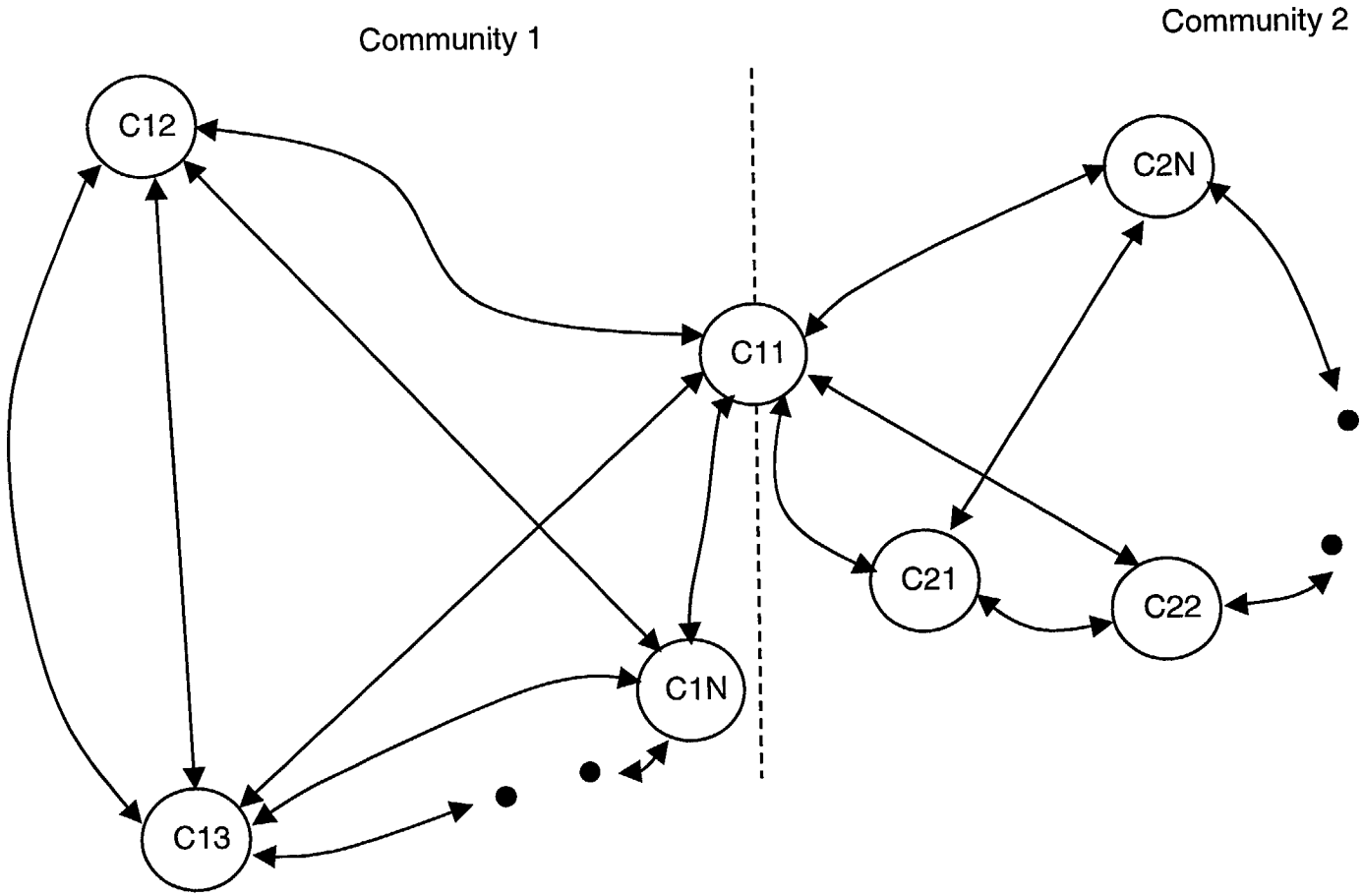


Fig. 3A

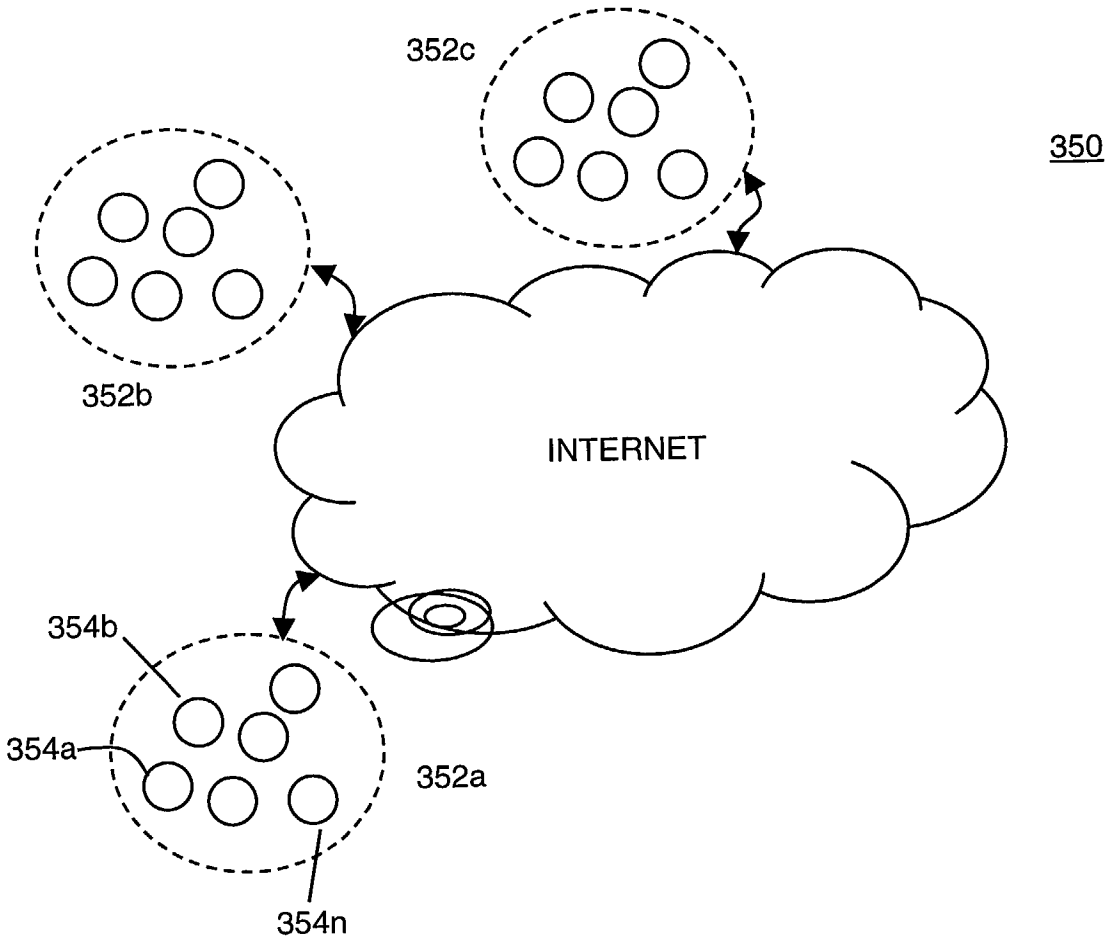


Fig. 3B

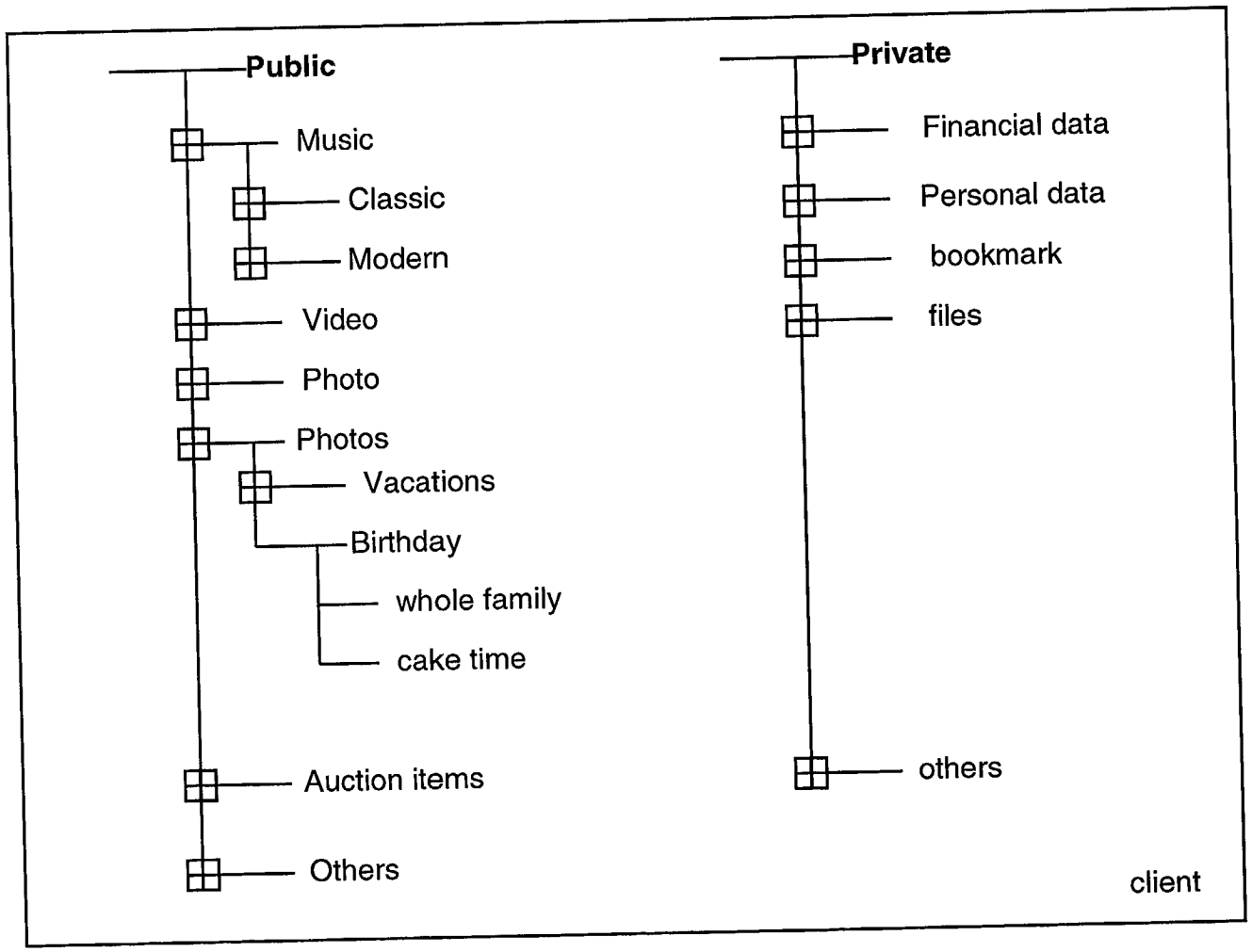

Public
Music
Classic
Modern
Video
Photo
Photos
Vacations
Birthday
whole family
cake time
Auction items
Others
Private
Financial data
Personal data
bookmark
files
others
client

Fig. 4

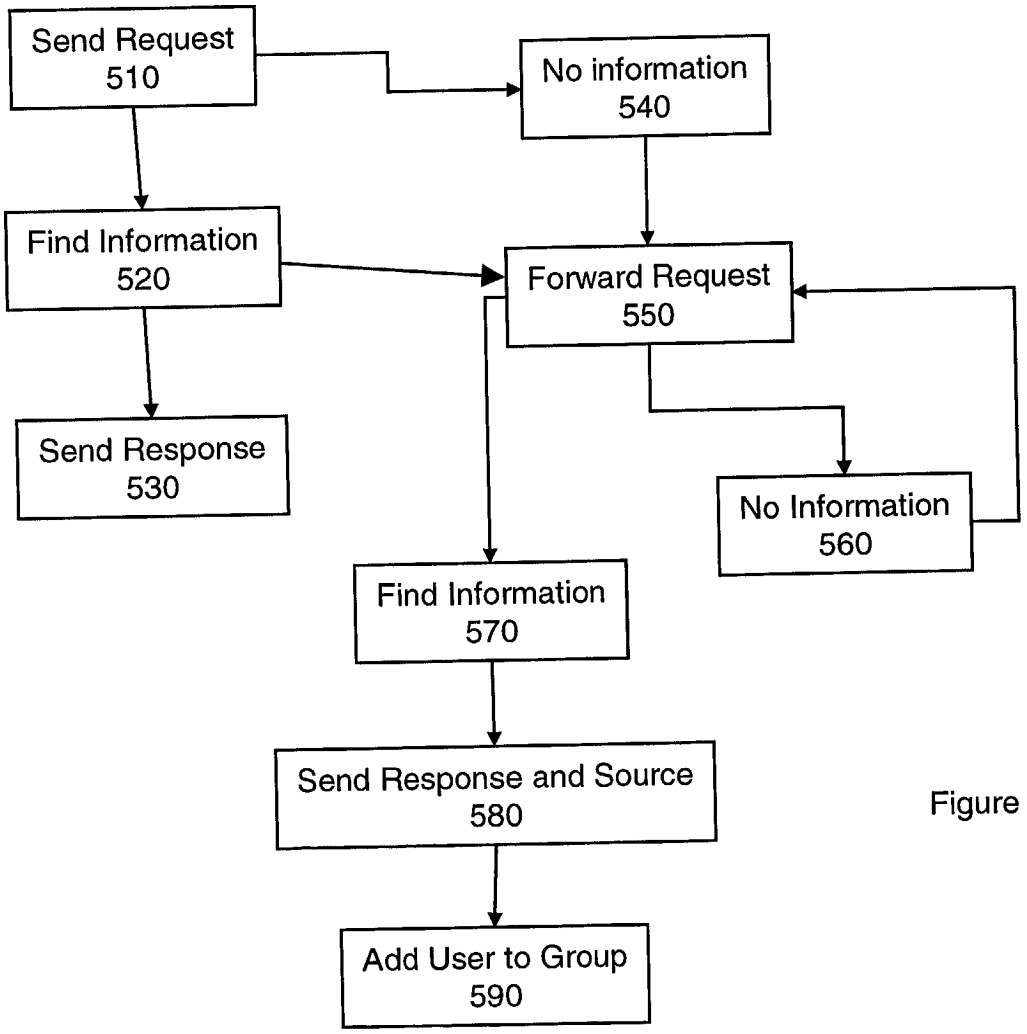

Send Request
510
No information
540
Find Information
520
Forward Request
550
Send Response
530
No Information
560
Find Information
570
Send Response and Source
580
Add User to Group
590

Figure 5

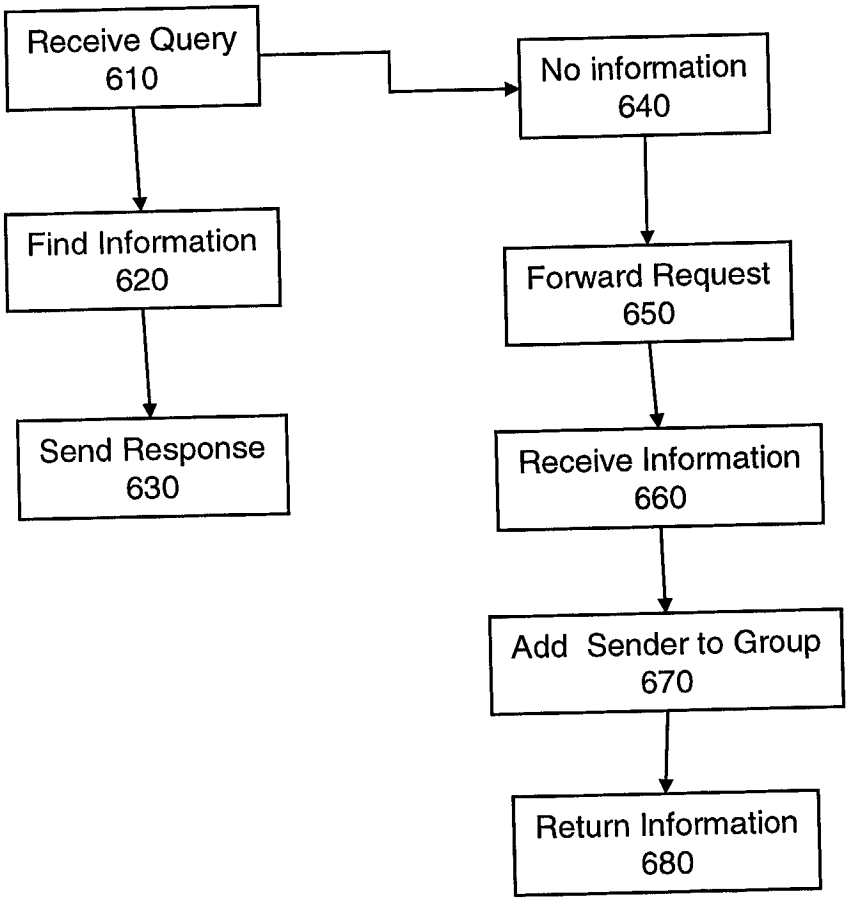

Receive Query
610
Find Information
620
Send Response
630
No information
640
Forward Request
650
Receive Information
660
Add Sender to Group
670
Return Information
680

Figure 6

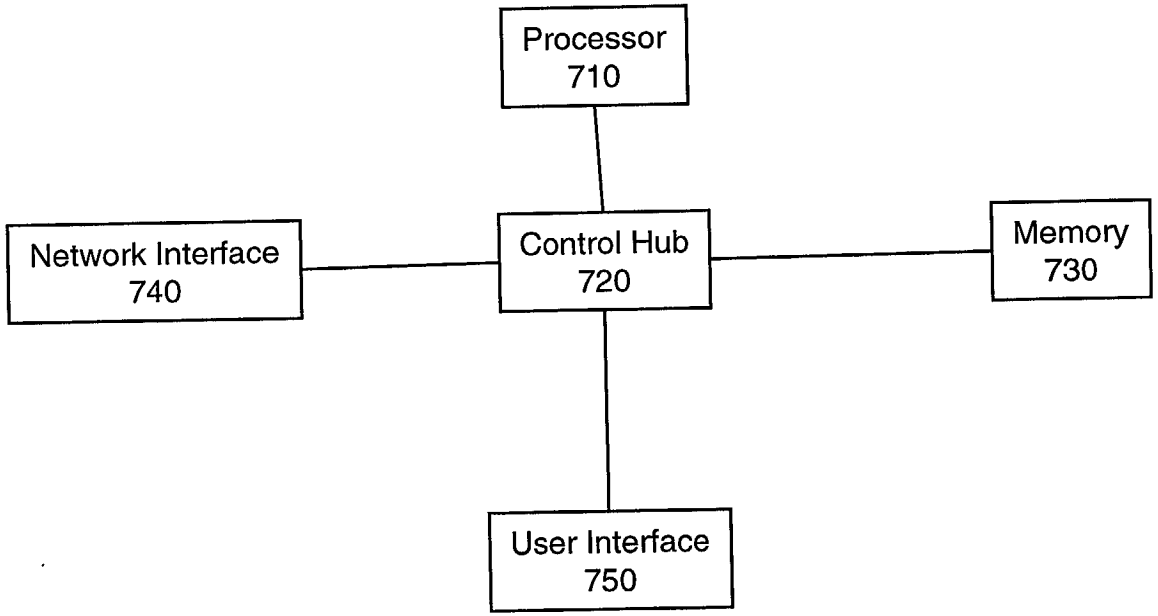

Processor
710
Network Interface
740
Control Hub
720
Memory
730
User Interface
750

Figure 7

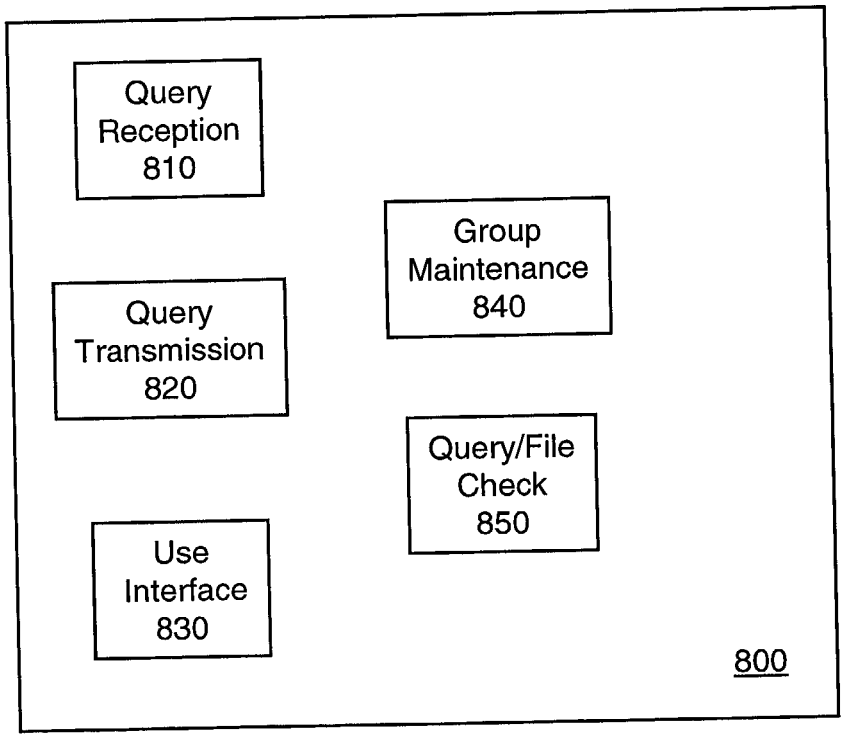

Query Reception 810
Group Maintenance 840
Query Transmission 820
Query/File Check 850
Use Interface 830
800

Figure 8

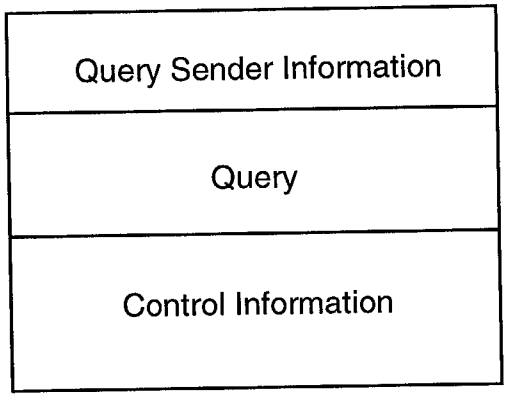


Figure 9

Attorney's Docket No.: 004747.P006 Patent

DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below, next to my name.

I believe I am the original, first, and sole inventor (if only one name is listed below) or an original, first, and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

ONLINE LIVE SEARCH SYSTEMS

the specification of which

_X_ is attached hereto.
___ was filed on _____ as
United States Application Number _____
or PCT International Application Number _____
and was amended on _____.
(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment referred to above. I do not know and do not believe that the claimed invention was ever known or used in the United States of America before my invention thereof, or patented or described in any printed publication in any country before my invention thereof or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, and that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (for a utility patent application) or six months (for a design patent application) prior to this application.

I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d), of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)

(Number)	(Country)	(Day/Month/Year Filed)	Priority Claimed Yes	No

I hereby claim the benefit under title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below:

(Application Number)	Filing Date

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Number)	Filing Date	(Status -- patented, pending, abandoned)

I hereby appoint the persons listed on Appendix A hereto (which is incorporated by reference and a part of this document) as my respective patent attorneys and patent agents, with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.

Send correspondence to _____, BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP, 12400 Wilshire Boulevard 7th Floor, Los Angeles, California 90025 and direct telephone calls to _____, (408) 720-8300.

(Name of Attorney or Agent)

(Name of Attorney or Agent)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of Sole/First Inventor Howard Allan Abrams

Inventor's Signature _____ Date 9/8/00

Residence San Francisco (City, State) Citizenship USA (Country)

Post Office Address 175 Bluxome St #224, San Francisco, CA 94107

Full Name of Joint/Second Inventor Jonathan B. Lindo

Inventor's Signature _____ Date Sept. 9, 2000

Residence Los Altos (City, State) Citizenship Canada (Country)

Post Office Address 215 N El Monte Ave, Los Altos, CA 94022

Full Name of Joint/Third Inventor Payton R. White

Inventor's Signature _____ Date 9/8/2000

Residence Palo Alto (City, State) Citizenship USA (Country)

Post Office Address 345 Sheridan Avenue, #303, Palo Alto, CA 94306

Full Name of Joint/Fourth Inventor Mark Christian Barnes

Inventor's Signature Mark Christian Barnes Date 9-8-00

Residence Sunnyvale (City, State) Citizenship USA (Country)

Post Office Address 430 Cirrus Ave, Sunnyvale, CA 94087

Full Name of Joint/Fifth Inventor Geoffrey F. Graber

Inventor's Signature _____ Date 8 Sept., 2000

Residence San Francisco (City, State) Citizenship USA (Country)

Post Office Address 480 Vallejo Street, #1, San Francisco, CA 94133

Full Name of Joint/Sixth Inventor Gavin S. H. Cheng

Inventor's Signature _____ Date 8 Sept, 2000

Residence San Francisco (City, State) Citizenship USA (Country)

Post Office Address 3055 Gough Street, #303, San Francisco, CA 94123

DOCKET NO. SVL920000

APPENDIX A

William E. Alford, Reg. No. 37,764; Farzad E. Amini, Reg. No. P42,261; Aloysius T. C. AuYeung, Reg. No. 35,432; William Thomas Babbitt, Reg. No. 39,591; Carol F. Barry, Reg. No. 41,600; Jordan Michael Becker, Reg. No. 39,602; Bradley J. Bereznak, Reg. No. 33,474; Michael A. Bernadicou, Reg. No. 35,934; Roger W. Blakely, Jr., Reg. No. 25,831; Gregory D. Caldwell, Reg. No. 39,926; Ronald C. Card, Reg. No. 44,587; Andrew C. Chen, Reg. No. 43,544; Thomas M. Coester, Reg. No. 39,637; Alin Corie, Reg. No. P46,244; Dennis M. deGuzman, Reg. No. 41,702; Stephen M. De Klerk, under 37 C.F.R. § 10.9(b); Michael Anthony DeSanctis, Reg. No. 39,957; Daniel M. De Vos, Reg. No. 37,813; Robert Andrew Diehl, Reg. No. 40,992; Sanjeet Dutta, Reg. No. P46,145; Matthew C. Fagan, Reg. No. 37,542; Tarek N. Fahmi, Reg. No. 41,402; Paramita Ghosh, Reg. No. 42,806; James Y. Go, Reg. No. 40,621; James A. Henry, Reg. No. 41,064; Willmore F. Holbrow III, Reg. No. P41,845; Sheryl Sue Holloway, Reg. No. 37,850; George W Hoover II, Reg. No. 32,992; Eric S. Hyman, Reg. No. 30,139; William W. Kidd, Reg. No. 31,772; Sang Hui Kim, Reg. No. 40,450; Eric T. King, Reg. No. 44,188; Erica W. Kuo, Reg. No. 42,775; Kurt P. Leyendecker, Reg. No. 42,799; Michael J. Mallie, Reg. No. 36,591; Andre L. Marais, under 37 C.F.R. § 10.9(b); Paul A. Mendonsa, Reg. No. 42,879; Darren J. Milliken, Reg. 42,004; Lisa A. Norris, Reg. No. 44,976; Chun M. Ng, Reg. No. 36,878; Thien T. Nguyen, Reg. No. 43,835; Thinh V. Nguyen, Reg. No. 42,034; Dennis A. Nicholls, Reg. No. 42,036; Daniel E. Ovanezian, Reg. No. 41,236; Marina Portnova, Reg. No. P45,750; Babak Redjaian, Reg. No. 42,096; William F. Ryann, Reg. 44,313; James H. Salter, Reg. No. 35,668; William W. Schaal, Reg. No. 39,018; James C. Scheller, Reg. No. 31,195; Jeffrey Sam Smith, Reg. No. 39,377; Maria McCormack Sobrino, Reg. No. 31,639; Stanley W. Sokoloff, Reg. No. 25,128; Judith A. Szepesi, Reg. No. 39,393; Vincent P. Tassinari, Reg. No. 42,179; Edwin H. Taylor, Reg. No. 25,129; John F. Travis, Reg. No. 43,203; George G. C. Tseng, Reg. No. 41,355; Joseph A. Twarowski, Reg. No. 42,191; Lester J. Vincent, Reg. No. 31,460; Glenn E. Von Tersch, Reg. No. 41,364; John Patrick Ward, Reg. No. 40,216; Mark L. Watson, Reg. No. P46,322; Thomas C. Webster, Reg. No. P46,154; Charles T. J. Weigell, Reg. No. 43,398; Kirk D. Williams, Reg. No. 42,229; James M. Wu, Reg. No. 45,241; Steven D. Yates, Reg. No. 42,242; and Norman Zafman, Reg. No. 26,250; my patent attorneys, and Justin M. Dillon, Reg. No. 42,486; my patent agent, of BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP, with offices located at 12400 Wilshire Boulevard, 7th Floor, Los Angeles, California 90025, telephone (310) 207-3800, Joe Zheng, Reg. No. 39,450; my patent agent and James R. Thein, Reg. No. 31,710, my patent attorney.

APPENDIX B

Title 37, Code of Federal Regulations, Section 1.56
Duty to Disclose Information Material to Patentability

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclosure information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclosure all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

(1) Prior art cited in search reports of a foreign patent office in a counterpart application, and

(2) The closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made or record in the application, and

(1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or

(2) It refutes, or is inconsistent with, a position the applicant takes in:

(i) Opposing an argument of unpatentability relied on by the Office, or

(ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

(1) Each inventor named in the application;

(2) Each attorney or agent who prepares or prosecutes the application; and

(3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.